

SECTION 01820

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing FAA personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.

1.2 QUALITY ASSURANCE

- A. Instructor Qualifications - A factory-authorized service representative experienced in operation and maintenance procedures and training.

1.3 COORDINATION

- A. Coordinate instruction schedule with FAA COTR. Adjust schedule as required to minimize disrupting FAA operations.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure - Develop a comprehensive instruction program. Include individual training modules for each system and equipment not part of a system, as required by technical Specification Sections and the Schedule of Training in Part 3 of this Section.
- B. Training Modules - Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable:
 - 1. Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Operating standards.
 - c. Regulatory requirements.
 - d. Equipment function.
 - e. Operating characteristics.

- f. Limiting conditions.
 - g. Performance curves.
- 2. Documentation - Review the following items in detail:
 - a. Operations manuals.
 - b. Maintenance manuals.
 - c. Project Record Documents.
 - d. Identification systems.
 - e. Warranties and bonds.
 - f. Maintenance service agreements and similar continuing commitments.
- 3. Emergencies - Include the following:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
- 4. Operations - Include the following:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures, including lockout/tag out requirements.
 - g. Instructions on stopping.
 - h. Normal shutdown and re-start instructions.
 - i. Operating procedures for system, subsystem, or equipment failure.
 - j. Seasonal and weekend operating instructions.
 - k. Required sequences for electric or electronic systems.
 - l. Special operating instructions and procedures.
- 5. Adjustments - Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
- 6. Troubleshooting - Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
- 7. Maintenance - Include the following:

- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive/predictive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
- 8. Repairs - Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.
- C. Training Duration - Duration of training and demonstration is addressed under Part 3 – Execution. Training and demonstration duration for specific items within a training module may be adjusted with FAA approval to meet the overall goals of the training module.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

- A. Qualified Facilitator shall prepare instruction program and training modules, to coordinate instructors, and coordinate between Contractor and FAA for number of participants, instruction times, dates and location.
 - 1. The RE will furnish names and positions of participants.
- B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide instruction on actions necessary to prepare for and execute seasonal change over.
 - 1. Schedule training through the RE with at least 30 days' advance notice.
- C. Evaluation - At conclusion of each training module, assess and document training.

1. Evaluate each participant's mastery of the module.
 2. Obtain each participant's evaluation of the training via a pre-printed survey form approved by the RE.
- D. Cleanup - Collect used and leftover educational materials. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.
- E. Record of Training - Provide a record of training. Record shall include list of attendees, student evaluation of training, evaluation of student comprehension at the end of training and recommendations for follow-on training.

3.3 SCHEDULE OF TRAINING

SPECIFICATION SECTION		HOURS TRAINING	NOTES
NO.	TITLE		
15900	Building Management System	16 hours total on-site training	See individual specification sections for special equipment training requirements.
